DOCUMENT RESUME

ED 370 592 IR 055 045

AUTHOR Croft, Richard S.
TITLE Fun and Games with Photoshop: Using Image Editors To Change Photographic Meaning.
PUB DATE 93
NOTE 10p.; In: Visual Literacy in the Digital Age: Selected Readings from the Annual Conference of the International Visual Literacy Association (25th, Rochester, New York, October 13-17, 1993); see IR 055 055.
PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Software; Copyrights; *Editing; *Ethics; *Nonverbal Communication; *Photographs; Technological Advancement; *Visual Literacy
IDENTIFIERS *Digital Technology; Digitizing

ABSTRACT

The introduction of techniques for digitizing photographic images, as well as the subsequent development of powerful image-editing software, has both broadened the possibilities of altering photographs and brought the means for doing so within the reach of many. This article is an informal review of the ways image-editing software can be used to improve photographic communication. Image-editing software permits the correction of photographic faults by providing simple means for cropping, adjusting brightness, contrast, and color balance, and retouching. A number of techniques are now available for focusing viewer attention on part of the photograph or for simplifying the subject by eliminating detail. Meaning can be added through color changes, annotations, enlargement of areas, and composition of drawn or other photographic elements with the original. Ethical concerns have acquired new importance with the possibilities for changing meaning through editing and with the ease with which copyrighted works can be copied. Six figures illustrate some of the techniques. (SLD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED 370 592

Fun and Games with Photoshop: Using Image Editors to Change Photographic Meaning

by Richard Croft

Virginia Tech
455 Hemlock Street
Christiansburg, VA 24073-3860

IR055045

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Alice Walker
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

Fun and Games with Photoshop: Using Image Editors to Change Photographic Meaning

Richard S. Croft

Introduction

Modification of photographs to enhance or change their meaning is nothing new. However, the introduction of techniques for digitizing photographic images and the subsequent development of powerful image editing software has both broadened the possibilities for altering photographs and brought the means of doing so within the reach of anyone with imagination and patience. Those who wish to convey a message using photographs now have greater means than ever before of assuring that the communication will be clear. This article is an informal survey of the ways that we can use image editing software to improve photographic communication.

Educators, among others, find themselves wishing to use the power of visual communication, but cannot be certain of obtaining a photograph which clearly and concisely carries the desired meaning. However, by using a package like *Adobe Photoshop*, we can make changes to an available photograph to increase the likelihood of the viewer interpreting the message as we intend. Types of image modification possible include improvements to the aesthetic quality of the picture, techniques for focusing the viewer's attention, methods of simplifying the subject, ways of adding meaning to the image, and transformations which completely change the meaning of the image. The following sections briefly discuss each type of modification, and show examples of some techniques for accomplishing each kind of change.

Improving Image Quality

A photograph that lacks aesthetic quality may prove ineffective in

communicating a message. If the composition is distracting, if the image is "muddy," or if the colors seem unnatural, the viewer may not interpret the image correctly (or may not even look at it). Also, photographs may suffer defects resulting from dust on the negative during printing or damage to the film emulsion. Standard darkroom techniques can remediate any of these problems, but they require considerable skill and practice. Image editing software allows corrections to all of the listed faults by providing simple means for cropping, adjusting brightness and contrast, adjusting color balance, and retouching (painting away defects like dust spots).

Figure One illustrates the use of cropping to improve composition by filling more of the viewing area with the subject of the picture and also the effects of adjustments to brightness and contrast. (Since this article is printed in black and white, it will include no illustrations requiring color.)

Focusing Viewer Attention

When it is necessary to direct the viewer's attention to a specific element of a photograph, without completely losing the context, one may use one of a number of techniques. The most straightforward is to simply crop the image to fill the frame with the subject. However, at times the remaining background may still be too distracting. Under these conditions, an image editor provides the means of selectively altering either the main subject or the

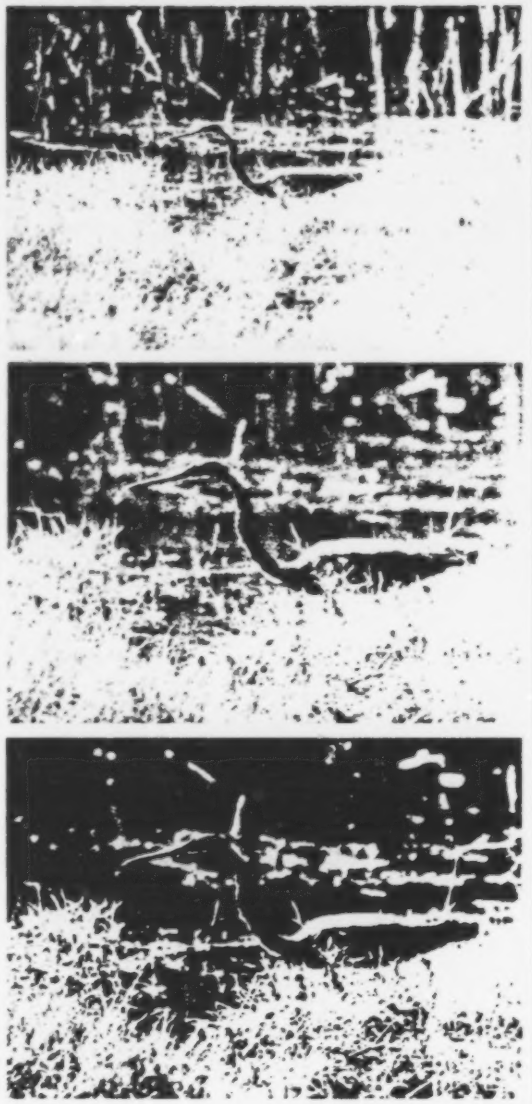

Figure One: A photograph before cropping (top), after cropping (center) and after adjusting brightness and contrast (bottom).

remainder of the image to provide emphasis to the desired focal point of the picture. Some techniques are: darkening the background, blurring the background, tinting the background, removing color from the background of a color image, or changing the background completely.

The choice of which technique one uses to emphasize the subject of a photograph will depend on the precise circumstances. Tinting a background is effective, but the results may look unnatural. Blurring a background looks more natural, but if there are any details of secondary importance, this may obscure them. Putting the foreground subject in a new background is effective only if the new background is truly appropriate. Figure Two shows several of these techniques applied to a photograph of a pelican on a dock.

Simplifying the Subject

Depending on the precise meaning we wish a photograph to convey, it is at times useful to remove some detail from the subject, leaving only those which are of interest. Image editors provide a variety of tools for removing details, so that one may either cut the subject out of the picture for placement on a neutral

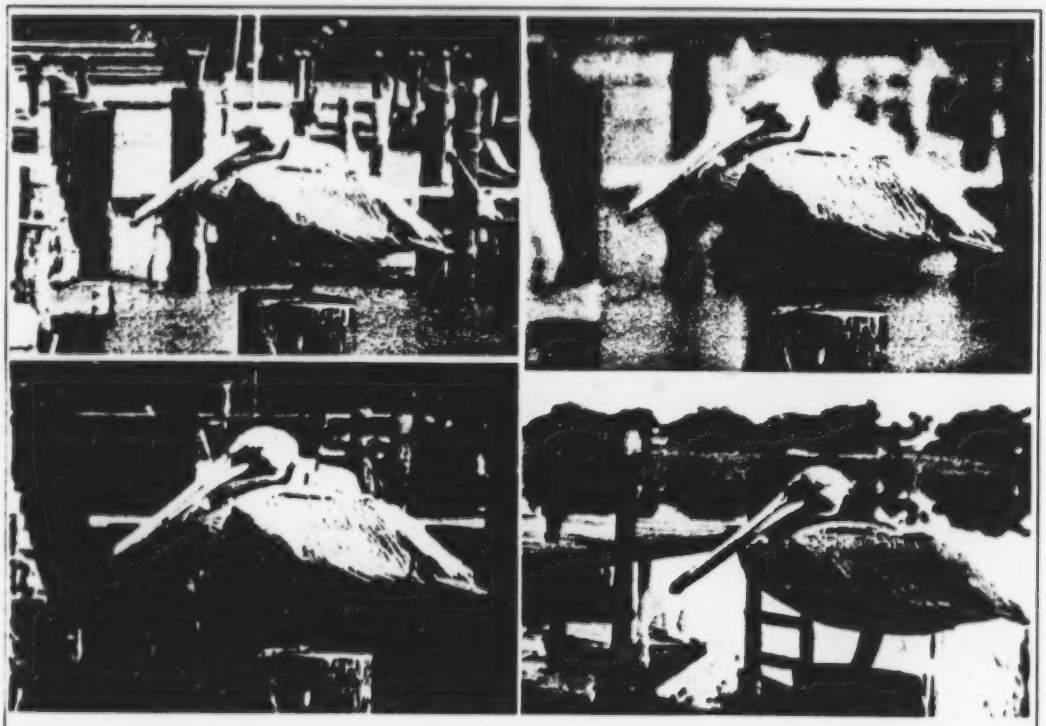

Figure Two: Focusing Viewer Attention. Before (upper left), blurred background (upper right), darkened background (lower left), and new background (lower right).

BEST COPY AVAILABLE

background; remove color (which may be distracting if the important details are form and pattern); blur interior lines, leaving only form and general coloration (a procedure called faceting); reduce the image to a line drawing; or even convert it to a silhouette.

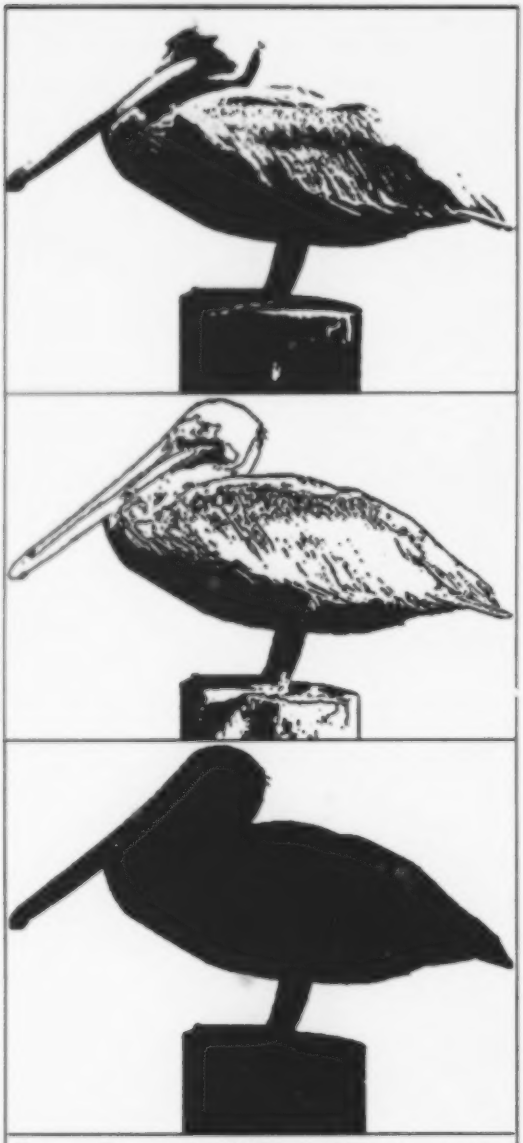

Figure Three: Simplifying. Top: A cut out image. Middle: Line drawing from the same photograph. Bottom: Silhouette from the same photograph.

Knowlton (1966) describes a taxonomy of visual representation based on the fidelity an image has for each of three attributes: elements included, pattern, and connections. Techniques for simplifying a photographic subject all involve maintaining realism (high fidelity) in at least one of the image attributes while reducing fidelity in one or both of the other two. Figure Three presents the pelican from Figure Two simplified in several of the ways described in the preceding paragraph.

Adding Meaning

While at times one may need to remove detail from a photograph, there are also occasions that mandate the addition of information to successfully communicate. For instance, one may add color to a monochromatic image of a deep-sea fish to show how it looks before it is brought out of the water. Other examples of adding meaning include annotations, enlarging of parts of the image, and compositing of drawn or photographic elements with the original photograph.

Annotation can take the form of text or lines and arrows, and provides a clear method of emphasizing

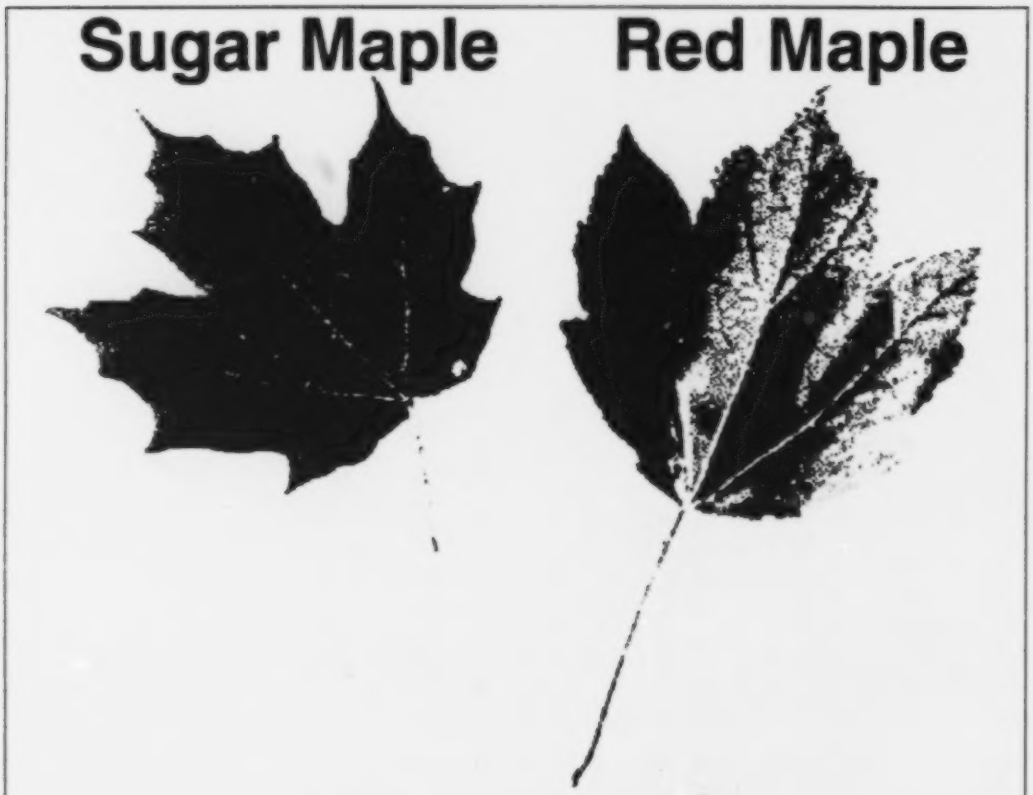

Figure Four: Adding meaning by using annotations.

specific parts of an image or simply identifying the image. Figure Four shows two maple leaves with a textual annotation identifying them as belonging to different species.

Enlarging a portion of a photograph can be very helpful in emphasizing specific details that might be difficult to distinguish in the original image, while maintaining ample context. Figure Five shows the same pair of maple leaves shown in Figure Four, with a portion of the leaf margins enlarged to illustrate the difference between the two leaves. An additional text annotation explains the enlargement.

Composite images are useful when we desire to illustrate with photographic realism some event or object that simply cannot be photographed. For example, an illustration of an animal's skeleton with a "ghost" image of the live creature superimposed, or a "photograph" of some historical event predating photography, may both be accomplished using digital composites. To illustrate the "living skeleton" would require a photograph of the skeleton

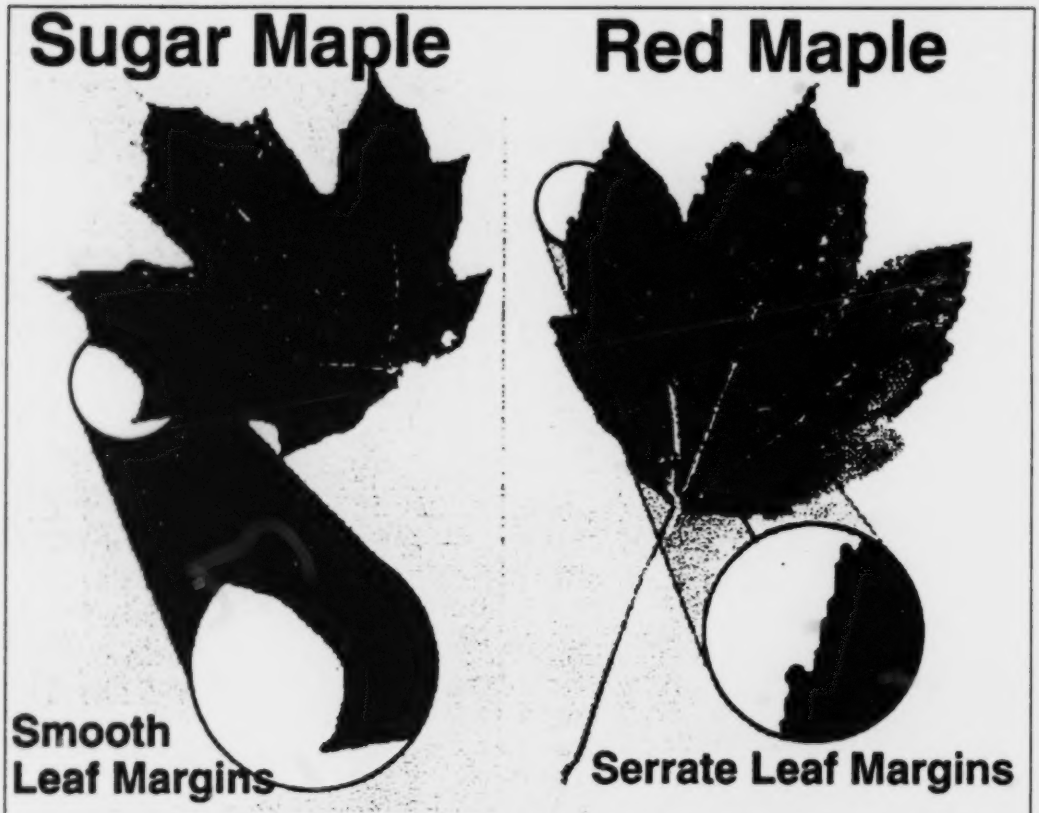

Figure Five: Adding meaning by enlarging parts of the image and annotating.

composited with a partially transparent drawing or photograph. The historical scene would involve compositing photographs of models (or actors) in appropriate dress with drawn or photographed elements. Figure Six shows the creation of a photographic interpretation of an early effort to ride over Niagara Falls in a barrel.

Changing Meaning

All of the previously described transformations result in some change in a photograph's meaning. However, it is possible to make radical differences in content. For instance, cropping a photograph of a man wielding a hammer may convert a carpenter into a much more sinister figure, and the careful addition of another human figure in the hammer's path will finish the job. A person who makes significant changes in a photograph's meaning may do so for the purposes of advertising, deception, artistic expression, or a combination of any of these.

Ethical Considerations

One immediate concern in the age of scanners, which quickly

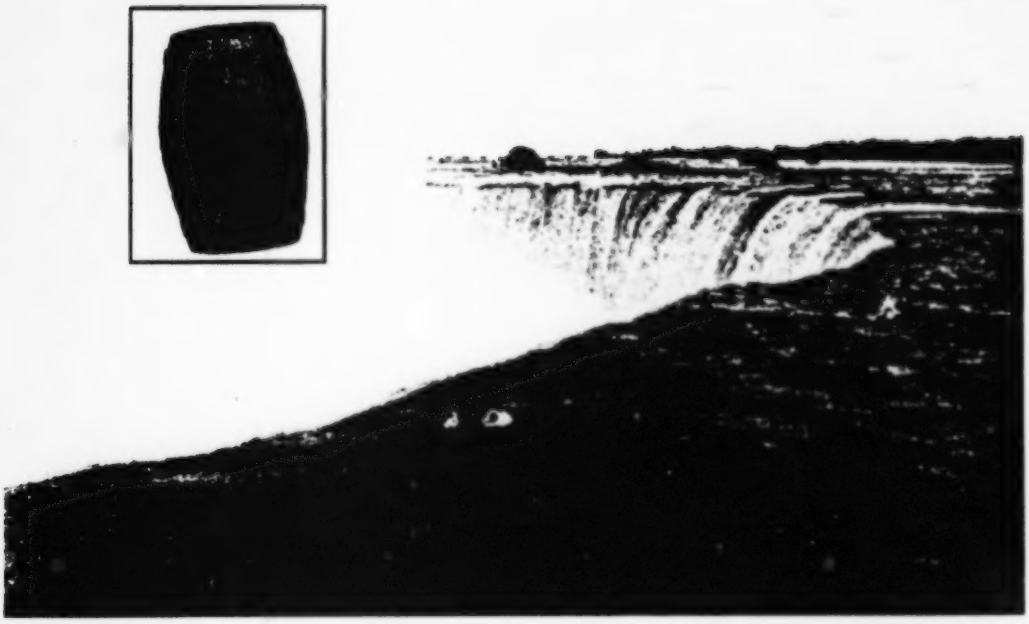

Figure Six: Creating a simple composite to simulate a "Barrel over Niagara Falls" incident. The barrel was painted in a separate graphics program. The last image in Figure Two shows another composite using all photographic elements.

BEST COPY AVAILABLE

convert any artwork into a digital form, is that of copyright. Even though one may be able to easily obtain an image from any publication, it is important to remember that use of copyrighted photographs without the owner's permission is illegal.

A more subtle concern is related to the confidence many viewers have in photographic images. The degree of realism which digital composites may exhibit is both impressive and frightening, owing to the traditional faith in photographic veracity. For this reason, one must consider carefully how one applies changes in meaning, and if (for instance) one uses image editing to "recreate history" as described earlier in this paper, it must be clear to the viewer that the image is indeed an illustration, and not a record made at the time of the event.

Conclusion

The introduction of desktop technology greatly increases the possibilities for photographic communication. Even a person who does not have the time, equipment, or experience to make a photograph speak clearly should be able to find someone who does have the equipment and expertise. Given familiarity with the possibilities and sufficient imagination, one may now communicate almost anything with a "photograph." While this new flexibility and power can be used to further education and communication, they also hold potential for great misuse. Ethical practitioners will use them with care.

Caveats

The originals of the images appearing in this paper are color photographs belonging to the author, and were included in a presentation given at the IVLA 1993 Conference.

The poor quality of the pictures is an artifact of the printing process and not due to digitizing and editing.Novice users should note that image editing software requires fast desktop computers with greater-than-average memory and disk space. Furthermore, while many of the adjustments used to improve image quality are easy to learn (cropping, brightness and contrast, color balance), more sophisticated transformations require considerable time to learn. For effective use of any of the methods outlined in this paper, a thorough understanding of photographic principles is helpful if not essential.

References

Knowlton, J. Q. (1966). On the definition of "Picture." *AV Communication Review (14) 2*, 157-183.